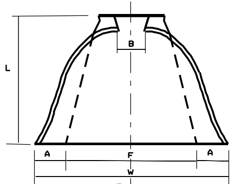
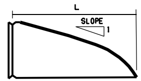
END SECTIONS FOR CIRCULAR PIPE CORRUGATIONS

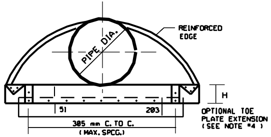
75 × 25 ; 68 × 13
125 × 25 ; 19 × 19 × 190
AND 19 × 25 × 292



PLAN



TYPICAL CROSS SECTION

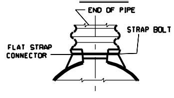


ELEVATION

LINE NO.	PIPE DIA	THICK--NESS	END SECTION DIMENSIONS						
			A	B	H	F	L	W MAX. WIDTH	APPROXIMATE AVERAGE END SECTION SLOPE
	mm	mm	mm	mm	mm	mm	mm	mm	
1	300	1.32	127	178	152	559	533	1118	1:2.25
2	375	1.63	152	203	152	711	660	1321	1:2.25
3	450	1.63	178	254	152	864	787	1473	1:2.13
4	525	1.63	203	305	152	1016	914	1676	1:2.13
5	600	1.63	229	330	152	1168	1041	1829	1:2.13
6	750	2.01	279	406	203	1397	1295	2235	1:2.13
7	900	2.01	330	483	229	1778	1524	2667	1:2.00
8	1050	2.77	381	635	254	2083	1524	3099	1:2.13
9	1200	2.77	432	737	305	2235	1981	3327	1:2.00
10	1350	2.77	432	838	305	2540	2134	3632	1:2.00
11	1500	2.77	432	914	305	2845	2210	3988	1:1.88
12	1650	2.77	432	991	305	2997	2210	4115	1:1.63
13	1800	2.77	432	1118	305	3048	2210	4267	1:1.50
14	1950	2.77	432	1219	305	3302	2210	4521	1:1.38
15	2100	2.77	432	1321	305	3454	2210	4674	1:1.33
16	2250	2.77	432	1473	305	3607	2210	4775	1:1.25
17	2400	2.77	432	1473	305	3658	2210	5004	1:1.13

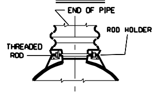
FILL SLOPE NEED NOT MATCH THE END SECTION SLOPE. FILL CAN BE SHAPED AT EACH SITE TO FIT.
1. SOME LARGER SIZES MAY REQUIRE FIELD ASSEMBLY.
2. OPTIONAL TOE PLATES MAY BE PROVIDED TO DEPTH SPECIFIED.
3. FOR 1950 mm × 1320 mm AND 2100 mm × 1450 mm SIZES. REINFORCED EDGES TO BE SUPPLEMENTED WITH GALVANIZED STIFFENER ANGLES THE ANGLES TO BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS OR ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

TYPE 1



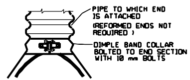
AVAILABLE IN SIZES 300 mm THROUGH 600 mm ROUND AND 430 mm × 330 mm THROUGH 710 mm × 550 mm PIPE-ARCHES

TYPE 2



AVAILABLE IN SIZES 750 mm THROUGH 2400 mm ROUND AND 885 mm × 610 mm THROUGH 1440 mm × 970 mm PIPE-ARCHES

TYPE 3



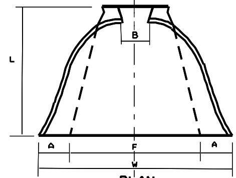
AVAILABLE FOR ALL ROUND AND PIPE ARCH SIZES SHOWN (TYPE 1 AND TYPE 2 CONDITIONS ARE RECOMMENDED FOR THE SMALLER SIZES WITH ANNUULAR ENDS)

APPLICABLE SPECIFICATIONS (CIRCULAR AND ARCH PIPE)

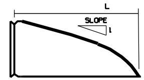
1. THE MATERIAL USED IN THE FABRICATION OF END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF:
   AASHTO M 218M's (GALVANIZED STEEL SHEETS)
   AASHTO M 197M's (ALUMINUM ALLOY SHEETS)
2. ALL 3 PIECE BODIES TO HAVE 2.77 mm MIN. SIDES AND 3.51 mm MIN. CENTER PANELS. MULTIPLE PANEL BODIES TO HAVE SEAMS WHICH ARE TO BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS OR BOLTS FOR ALUMINUM UNITS.
4. GALVANIZED STEEL OR ALUMINUM TOE PLATE TO BE AVAILABLE AS AN ACCESSORY, WHEN SPECIFIED, AND WILL BE THE SAME THICKNESS AS THE END SECTION.
5. GALVANIZED STEEL OR ALUMINUM LIFTING LUG AVAILABLE AS AN ACCESSORY, WHEN SPECIFIED.
6. END SECTIONS CAN BE USED WITH ANY OR PIPE OR PIPE ARCH WALL THICKNESS SPECIFIED.

END SECTIONS FOR CORRUGATED METAL PIPE ARCHES

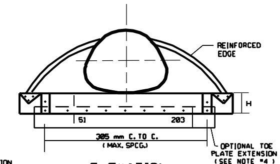
75 × 25 ; 125 × 25
AND 68 × 13



PLAN



TYPICAL CROSS SECTION



ELEVATION

LINE NO.	SPAN × RISE	EQUIV. ROUND	THICKNESS		END SECTION DIMENSIONS						
			GALV. STEEL	ALUM.	A MIN.	B MAX.	H MIN.	F MIN.	L±50	W MAX. WIDTH	APPROXIMATE AVERAGE END SECTION SLOPE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
1	430×330	375	1.63	1.52	127	229	152	711	508	1321	1:2.125
2	530×380	450	1.63	1.52	152	279	152	864	610	1473	1:2
3	610×460	525	1.63	1.52	178	305	152	1016	711	1600	1:2.125
4	710×510	600	1.63	1.52	178	406	152	1168	813	1778	1:2
5	885×610	750	2.01	1.91	229	406	152	1473	991	2159	1:1.875
6	1060×740	900	2.01	1.91	279	457	178	1854	1168	2642	1:1.875
7	1240×840	1050	2.77	2.67	305	533	229	2083	1346	2972	1:1.75
8	1440×970	1200	2.77	2.67	406	660	305	2235	1575	3353	1:1.875
9	1620×1100	1350	2.77	2.67	432	762	305	2540	1753	3658	1:1.875
10	1800×1200	1500	2.77	2.67	432	914	305	2845	1956	3962	1:1.875
11	1950×1320	1650	2.77	2.67	432	914	305	3150	1956	4242	1:1.625
12	2100×1450	1800	2.77	2.67	432	1118	305	3302	1956	4496	1:1.5

FILL SLOPE NEED NOT MATCH THE END SECTION SLOPE. FILL CAN BE SHAPED AT EACH SITE TO FIT.
1. SOME LARGER SIZES MAY REQUIRE FIELD ASSEMBLY.
2. OPTIONAL TOE PLATES MAY BE PROVIDED TO DEPTH SPECIFIED.
3. FOR 1950 mm × 1320 mm AND 2100 mm × 1450 mm SIZES. REINFORCED EDGES TO BE SUPPLEMENTED WITH GALVANIZED STIFFENER ANGLES THE ANGLES TO BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS OR ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.
4. ANGLE REINFORCEMENT WILL BE PLACED UNDER THE CENTER PANEL SEAMS ON THE 1950 mm × 1320 mm AND 2100 mm × 1450 mm SIZES.

ALL DIMENSIONS ARE SHOWN IN MILLIMITERS (mm) UNLESS OTHERWISE NOTED

REVISIONS

NO.	DATE		REMARKS
1	12/14/98	FRW	CORRECTED SHEET NUMBER.
2	08/31/00	DS	CHANGED SHEET NUMBER FROM 605-2 TO 605-7 AND REVISED ENTIRE DRAWING.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — NOV.14,2000 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — NOV.14,2000 DATE
DEPUTY DIRECTOR

(METRIC)
METAL CULVERT END SECTION
STANDARD DRAWING TITLE

STD. DWG. NO.
605-7